

IN THE CLAIMS

The following is a listing of the claims of record with claims 60 and 62 shown as amended.

Claim 60 (currently amended) An audio signal processing method, comprising the steps of:

converting analog audio signals of multiple channels into multiple digital data streams corresponding to the multiple channels, the multiple digital data streams having original maximum levels which are different from each other, and each of the multiple digital data streams having a level range expressed by number of bits respectively;

producing level-shift control data responsive to a highest level among the original maximum levels of the multiple digital data streams at every predetermined interval of time longer than the interval of an audio frame time;

shifting levels of all the multiple digital data streams at every said predetermined interval of time by a determined amount determined by the level-shift control data, reducing the number of bits expressing the level ranges of all the multiple digital data streams to compress digital data of all the multiple digital data streams and resulting level-shifted data streams corresponding to the multiple channels at every said predetermined interval of time;

coding the level-shifted data streams and the level-shift control data to produce a packed data stream to be recorded on a recording medium, wherein the packed data stream comprises audio packs including use data area having a sub header and an audio area packing digital data of said level-shifting data streams; and

modulating the packed data of the level-shifted data streams and the level-shift control data to produce a modulated signal to be recorded on the recording medium.

Claim 61 (previously presented). The audio signal processing method according to claim 60, in which multiple audio reproduction control information respectively including information for adjusting sound quality are added to the multiple digital data streams.

Claim 62 (currently amended). An audio signal reproducing method for reproducing audio signals of multiple channels from a modulated packed data stream composed of level-shifted data streams corresponding to the multiple channels, and further composed of level-shift control data, the level-shifted data streams being produced by converting the analog audio signals [the] multiple digital data streams having original maximum levels which are different from each other, and each of the multiple digital data streams having a level range expressed by number of the bits respectively, all the level-shifted data streams being level-shifted at every predetermined interval of time longer than the interval of an audio time frame by a determined amount determined by a level-shift control data which is produced at every said predetermined interval of time in response to a highest level among the original maximum levels, the number of bits expressing the level ranges of all the level-shifted data streams being reduced to compress digital data of all the multiple digital data streams, both of the level-shifted data streams and the level-shift control data being coded to produce the packed data stream, wherein the packed data stream comprises audio packs including user data area having a sub header and an audio area packing digital data of said level-shift data streams; the audio signal reproducing method comprising the steps of:

demodulating the modulated packed data stream to reproduce the packed data stream;

decoding the packed data stream to reproduce the level-shifted data streams and the level-shift control data;

recovering the original maximum levels and the original level ranges of the multiple digital data streams by adjusting maximum levels and level ranges thereof responsive to the level-shift control data decoded; and

outputting the multiple digital data streams having the original maximum levels thus recovered.